Trigger Rescrubbing

Summary of changes:

- 3.8.x.1 L0Calo, total for WBS, -$275k
  - Added travel and changed to generic MSU engineer for FOX +$50k
  - Moved gFex migration to M&O -$323k

- 3.8.x.2 MDT Trigger, total for WBS +$100k
  - reduced engineer to 0.75 in production
  - added boards in pre-production +$70k
  - added 0.25 FTE student added (mistake in CY to FY conversion)
  - added 0.0625 FTE eng (mistake in CY to FY conversion)

Trigger Rescrubbing

Summary of changes:

- 3.8.x.3 L1Global, total for WBS, -$600k
  - Removed 2 algorithms -$700k
  - Changes to "standard chicago engineer" +~$170k
  - Changed M&S to only have one test board -$80k
  - Overhead on travel +$30k

- 3.8.x.4 Track Processing: -$300k
  - Shipping +$100k
  - -2 FTE for firmware -$400k

Trigger Rescrubbing

Possible reductions

- "Easy": Switch L1Global back to $90/hour gives -$170k
  - Reference numbers
    - Chicago $100/hour
    - Indiana $90/hour
    - MSU $80/hour
    - Penn $65-135/hour depending on seniority, reasonable mix $80/hour
  - Still assuming 6 institutes, could lower that and save -$60k in travel and a test system

- Hard
  - Reduce assumed manpower for Track
    - 4 FTE/board hardware is a rough number, drop to 3.5 FTE/board for two boards gives ~ -$200k
  - Could assume more student/postdoc input on MDT?
  - Could reduce fraction of mainboads to 40% gives -$720k
    - but that is my proposed scope contingency...!

Trigger Rescrubbing

Contingency/Opportunity

- Contingency %10 trigger ~$1200k
  - 30% instead of 50% mainboard gives $-1140k
  - Of course someone on ATLAS needs to pick that up...
  - Same will roughly work for DAQ (-$560k in budget)

- Opportunity
  - L1Global algorithms (+~$500k each), will prepare auxiliary BoE
    - 1st prio = global hadronic quantities
      - more US interest, fits better with other US projects
    - 2nd prio = tau
      - without getting this far, we probably have to cut an institute
  - for DAQ add back other 50% Aggregator hardware

DAQ Rescrubbing

Summary of changes:

- 3.7.x.1 L1 Global Aggregator -$220k
  - Changed "P2" to "P1" to for preproduction (as opposed to recommended reduction of P2 FTEs)
    - Net effect of correct salaries and level reassignments +$150k
  - %50 core -$495k
  - Don't assume pre-production board for final system +$110k

- 3.7.x.2 Track data handling -$1.5M
  - -$1M QSFPs (now core with QSFPs is $1.4M)
  - Corrected SLAC Labor rates (no ANL in math) and removed of 1 FTE firmware -$500k